ABSTRACT

Methods and apparatus for enabling inconsistent or unsafe threads to efficiently reach a consistent or safe state when a requesting thread requests a consistent state are disclosed. According to one aspect of the present invention, a method for requesting a consistent state in a multi-threaded computing environment using a first thread includes acquiring a consistent state lock using the first thread, and identifying substantially all threads in the environment that are inconsistent. The state of the inconsistent threads is altered to a consistent state, and the first thread is notified when the states of the previously inconsistent threads have been altered to be consistent. Once the first thread is notified, the first thread releases the consistent state lock. In one embodiment, the method also includes performing a garbage collection after releasing the consistent state lock using the first thread.